Machine and Tool **BLUE BOOK**
CUMULATIVE INDEX

JANUARY through DECEMBER 1962

		Month	Page
Assembling	In-Process Inspection Simplifies Transmission Assembly	Feb	118
	Are Assembly Lines Overrated?	Feb	121
	Automatic Assembly Can Help You 3 Ways	Jun	104
	Tooling Island Aids Machine Tool Assembly	Jul	102
	Component Kits Speed Circuit Board Assembly	Aug	84
	For Farmall's Model Mix, Computer Speeds Balancing of Assembly Line Workload	Nov	106
Brazing	Brazing Titanium Carbide	Jan	121
Chucks	Chucking the Big Ones	Aug	96
	"Cold" Chucks Take Hold in Precision Surface Grinding	Dec	125
Cutting Tools (columnists)	Brazing Titanium Carbide	Jan	121
	Machining High-Strength Steels	Feb	125
	Positive-Rake Inserts in Negative Rake Holders	Mar	142
	Carbide Machining of Stainless Steels	Apr	109
	The Functions of Rake	Jun	129
	Tool Life Variables in Planning Production	Aug	113
	Factors in Cutting Tool Selection—Part 1	Oct	125
	Factors in Cutting Tool Selection—Part 2	Nov	131
	Metallurgical Factors Affecting Service Life of Tool Steels—Part 1	Dec	127
Cutting Tools	Snap-Ring Grooves Put in by Drilling Units	Jan	98
	Cartridges in Slotted Spindle Plates Provide "Recoverable Tooling"	Jan	112
	How Pratt & Whitney Aircraft Established Useful Equipment Standards	Feb	106
	Laser—Metalworking's Newest Tool	Sep	113
	Carbide Impregnation Boosts Tool Life	Sep	122
Drilling & Finishing of Holes	Introduction	May	105
	The Limits of Tolerance—Part 1	Jun	119
	The Limits of Tolerance—Part 2	Jul	105
	Elements of the Twist Drill—Nomenclature, Point Angle, Chisel Edge, Web Thinning, and Modified Drill Points	Aug	104
	Elements of the Twist Drill—Split Point, Point Angles, Multiple-Cut Drills, and Double-Margin Drills	Sep	125

CUMULATIVE INDEX

	Elements of Twist Drill—Speeds and Feeds, Chip Breakers, and Chip Removal	Oct	120
	Elements of the Twist Drill—Bushings, Lubricants, and Cutting Fluids	Nov	127
	Deep Hole Drilling, Opposed Drilling, Drilling and Tapping	Dec	121
Electro-Discharge Machining	"Piccolo Punching" Anti-Icing Tubes	Oct	118
Engineering	The Future for Young Engineers	Feb	100
	Engineering Drawing Goes to Tape Control at General Dynamics/Fort Worth	Jul	96
Exposition	Preview of the A.S.T.M.E. Tool Exposition	May	133
Forming	Forming Parts from Continuous Galvanized Sheet	Jan	90
	Magnetic Field—Latest Metalworking Tool	Jan	110
	Power Bender Speeds Production at Automotive Parts Plant	Feb	123
	High Velocity Working Pressure Puts Precision Forging on a Production Basis	Mar	118
	Conventional Press Brake Equipment Forms Plastic Sheet	Mar	122
	Forming Metal Bands for TV Picture Tubes	May	118
	Coining Brass Emblems and Jewelry Findings	Aug	112
	Ice—Hottest New Die Material for Explosive Forming	Sep	102
	Forming 110,000 Terminal Plugs a Day with Four-Slide Tooling	Sep	118
	In Round—Out Square—Expander Holds Key to Product Redesign	Oct	110
	Curved "Helper" Section Aids Roll Forming Shells for Mixer Drums	Oct	115
	Torque Converter Hub Now Extruded	Nov	115
	Freeze Forming—New Lab Technique	Dec	118
Grinding, Finishing, Honing	Surface Grinding to Ten Millionths of Inch	Feb	116
	Abrasives Spark the Automotive Industry	Mar	107
	Full Pressure for Air Tools Saves Money	Apr	96
	Internal Grinding of Deep Blind Holes	Jul	104
	Superfinishing Discs with Stones in Tandem	Oct	124
	Horizontal Hone Uses Rotating Work-Piece	Nov	118
	"Cold" Chucks Take Hold in Precision Surface Grinding	Dec	125
Heat Treating (columnist)	Why Heat Treat?	Mar	145
	How Carbon Steels Respond to Heat Treatment	May	127
	Influence of the Cooling Rate	Jun	132
	Softening Heat Treatments	Jul	113

JANUARY through DECEMBER 1962

Hardening Heat Treatments ..... Aug 119
Drawing and Tempering ..... Sep 133
Surface Treatments ..... Oct 133
Methods of Heating and Quenching ..... Nov 135
Relation of Design; Types of Furnaces ..... Dec 133

Industrial Economics

Equipment Leasing: Your Questions Answered ... Jun 112
Appreciation . . . and . . . Depreciation ..... Sep 297
Money Talks ..... Oct 10
Money Talks ..... Nov 10
Money Talks ..... Dec 10

Inspection, Quality Control, Measurement

In-Process Inspection Simplifies Transmission Assembly ..... Feb 118
Maytag Executives Define Quality Control ..... Apr 86
Rack Leads Charted on Gear Analyzer ..... Apr 104
"No Charge" Gage Block Service ..... Apr 107
Automatic Assembly Can Help You 3 Ways ..... Jun 104
Dynamic Balancing—A Study in Accuracy ..... Jul 98
Federal Opens Measurement Center ..... Nov 143
A. O. Smith Fabricates and Inspects the Big Ones for the Oil Industry ..... Dec 106

Interesting Motions

Cam and Rack Produce Intermittent Rotary Motion ..... Jan 116
Three Slides Operated from One Power Source ... Feb 128
Cam Controls Machine's Speed and Timing ..... Mar 139
A Varying Intermittent Rotary Motion ..... Apr 120
Swinging Gears Produce a Variable Rotative Motion ..... Jun 136
Rotating Shaft Drives Irregular Slide ..... Aug 116
Reciprocating Slide Drives Intermittent Slide .... Oct 140
Variable Lever Movements with Single Cam ..... Nov 144
Hypocycloidal Gearing Produces Straight-Line Motion ..... Dec 136

Interviews

Jack Schiller, Asst. Supt., Mfg. Development, N. C. Works, Western Electric Co. ..... Feb 100
Irwin Rose, VP-Mfg., and Charles Gecan, Mgr., Quality Control, Maytag Co. ..... Apr 86
Robert Gladfelter, Pres., and Donald Lamb, VP-Engrg., Detroit Power Screwdriver Co. ..... Jun 104
Robert Sheridan, Pres., Nationwide Leasing Co. .. Jun 112
Joseph Riggs, Chm., and James Coultrap, Pres., Miehle-Goss-Dexter, Inc. ..... Sep 109

Jigs & Fixtures

Which Hole Locator Is Best? ..... Apr 92
Hydraulic Clamps Minimize Distortion in Milling Aluminum ..... Apr 102
Fixtures for N-C Machines ..... Oct 102

CUMULATIVE INDEX

Lubricants and Coolants (columnist)

Selecting the Lubricant ..... Jan 123
What to Look for When Specifying Lubricants and Coolants ..... Feb 130
How Coolants Aid Metalworking ..... Mar 135
Designing for Lubrication ..... Apr 113
Maintenance and Lubrication ..... May 125
Hydraulic Power Transmission Fluids ..... Jun 126
Lubricant Stability ..... Jul 117
Endurance Value of Petroleum Lubricants ..... Oct 136
Fire Hazards and Contaminants ..... Dec 130

Machining

Snap-Ring Grooves Put in by Drilling Units ..... Jan 98
Transfer Machine Builder Automates Short Runs ..... Jan 104
Hydraulic Clamps Minimize Distortion in Milling Aluminum ..... Apr 102
Rotundas Replace Rows in Screw Machine Shop That Is Different ..... Jul 90
The Case for Friction Band Sawing ..... Aug 90
Chucking the Big Ones ..... Aug 96
Laser—Newest Metalworking Tool ..... Sep 113
Machining Liquid-Cast Polyurethanes ..... Nov 129
Hot Machining the Tough New Alloys with Aid of R-F Resistance Heating ..... Dec 114

Manpower Management (columnist)

Selling New Methods to the Rank and File ..... Jun 123
Selling Work Standards to the Rank and File ..... Jul 109
Do You Keep Visiting Salesmen on a "Twelve-Hour Week?" ..... Aug 123
So You Won't Get a Union and You Won't Have a Strike! How Do You Know? ..... Sep 136
Can the Japanese Teach Us Anything About Labor Relations? ..... Oct 130
Try a Little Industrial Engineering on Your Salesmen's Compensation! ..... Nov 140

Maintenance

Lathe Maintenance Minimized with Nylon ..... Jan 101
Preventive Maintenance Pays Off at International Harvester ..... Mar 127
Tags Flag Machine Failures at Timken ..... Mar 134
Training the N-C Maintenance Man ..... May 122
Maintenance and Lubrication ..... May 125

Numerical Control (columnist)

How a Numerical Control System Operates ..... Jan 118
Applications for Numerical Control ..... Feb 134

Numerical Control

N-C Economizes Circuit Board Drilling ..... Apr 99
Training the N-C Maintenance Man ..... May 122

JANUARY through DECEMBER 1962

	N-C Keeps Pace with Space Age Needs	May	130
	N-C Speeds Drilling of Die Sets	Jun	116
	Engineering Drawing Goes to Tape Control at General Dynamics/Fort Worth	Jul	96
	They Grew Up with Numerical Control at Miehle-Goss-Dexter	Sep	106
	Fixtures for N-C Machines	Oct	102
Plastics	Lathe Maintenance Minimized with Nylon	Jan	101
	Conventional Press Brake Equipment Forms Plastic Sheet	Mar	122
	Machining Liquid-Cast Polyurethanes	Nov	120
Punching	Ganging Up on Punching Costs	Aug	98
	"Piccolo Punching" Anti-Icing Tubes	Oct	118
Sawing	The Case for Friction Band Sawing	Aug	90
Stampings (columnist)	From a Casting to a Stamping	Aug	109
	Three Approaches to Stamped Support Brackets for Round Shafts	Sep	130
	Variations of Stamped Pulleys	Nov	138
Tools and Dies	Cartridges in Slotted Spindle Plates Provide "Recoverable Tooling"	Jan	112
	Conventional Press Brake Equipment Can Form Plastic Sheet	Mar	122
	An American Tool and Die Maker Sets Up Shop in India	May	113
	Forming Metal Bands for TV Picture Tubes	May	118
	N-C Speeds Drilling of Die Sets	Jun	116
	Ice—Hot New Die Material for Explosive Forming	Sep	102
	Forming 110,000 Terminal Plugs a Day with Four-Slide Tooling	Sep	118
	Torque Converter Hub Now Extruded	Nov	115
	Freeze Forming—New Lab Technique	Dec	118
Tracing	Tracer-Controlled Table Speeds Multiple-Hole Drilling	Dec	116
Welding	Fast Welding of Tanks with Portable Submerged Arc Welder	Jun	109
	Welded Bearing Retainers Now Practical with New Projection Welding Technique	Aug	101
	Laser—Metalworking's Newest Tool	Sep	113
	Curved "Helper" Section for Roll Former Facilitates Subsequent Seam Welding	Oct	115
	A. O. Smith Fabricates the Big Ones for the Oil Industry	Dec	106

CUMULATIVE INDEX

Shop Hints

Die for Making Angle Brackets ..... Jan 126
Slotted Tube Speeds Trueing of Chuck Jaws ..... Jan 127
Recess in Punch Reduces Grinding Time ..... Jan 128
Adapter for Centering ..... Jan 128
Quick-Acting Jig Latch ..... Jan 129

Locating the Pressure Position on a Dieing Machine ..... Feb 136
Supporting Bushing for Small Diameter Stock .... Feb 137
Socket Wrench Extensions Drive Counterbore .... Feb 137
Emergency Tooling for Burr-Free Holes ..... Feb 139
Inserted Sections in Blanking Dies Solve Machining Problems ..... Feb 141

Edge Finder for Toolmaker's Microscope ..... Mar 148
Spring Flips Cut-Off Work into Box ..... Mar 149
Dowel Pins in Vise Jaws Speed Angular Work Setting ..... Mar 149

Timing Belts Reduce Loads on Bearings ..... Apr 116
In-Lathe Drill Jig Eliminates Extra Handling .... Apr 116
Collet Pads Hold Square Stock in Three-Jaw Chuck ..... Apr 118

Shot-Filled Jar Holds Small Tools ..... Jun 138
Using Vernier Calipers to Measure a Step ..... Jun 138
Use Solderless Terminals to Store Hex Key Wrenches ..... Jun 140
Alignment Bar Guides Hacksaw for Angle Cut ... Jun 140

Layout Die Applicator ..... Jul 126
Inertia Chuck Remover ..... Jul 126
Spring Helps Ejector Pin Last Longer ..... Jul 128
Preventing Slugged Parts from Sticking ..... Jul 128

Wheel Puller Doubles as a Clamp ..... Sep 140
Cap Over Draw-In Collet Provides Accurate Length Stop ..... Sep 140
Spanner Wrench Made from Tube Section ..... Sep 142
I-Beam Section Holds Pins for End Grinding ..... Sep 142

Clamp Design Equalizes Pressure ..... Oct 142
Wheel Change Brace Locks for Surface Grinding ..... Oct 142
Turning a Square into a Round ..... Oct 144

Bending Die Has Built-In Slides ..... Nov 148

Drill Breakage Eliminated at Angular Intersection ..... Dec 138
Adjustable Clamp for Welding Angle Joints ..... Dec 139
Burr Shaver Leaves Scribed Lines Intact ..... Dec 140